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EXAMINER

AUGHENBAUGH, WALTER

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,601

Applicant(s)

KRECH ET AL.

Examiner

Walter B. Aughenbaugh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30,32-37,46-53 and 55-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30,32-37,46-53 and 55-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/19/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made in claims 30, 49, 50, 55, 57 and 63-65 in the Amendment filed December 22, 2005 (Amdt. H) have been received and considered by Examiner.

WITHDRAWN REJECTIONS

2. The 35 U.S.C. 103 rejections of claims 30, 32-37, 46-53 and 55-61 that were repeated in paragraph 2 of the previous Office Action mailed September 22, 2005 have been withdrawn due to Applicant's amendments in claim 30 in Amdt. H.
3. The 35 U.S.C. 103 rejection of claim 63 made of record in paragraph 4 of the previous Office Action mailed September 22, 2005 has been withdrawn due to Applicant's amendment in claim 63 in Amdt. H.
4. The 35 U.S.C. 103 rejection of claim 64 made of record in paragraph 5 of the previous Office Action mailed September 22, 2005 has been withdrawn due to Applicant's amendments in claim 64 in Amdt. H.

REPEATED REJECTIONS

Claim Rejections - 35 USC § 103

5. The 35 U.S.C. 103 rejection of claim 62 that was repeated in paragraph 3 of the previous Office Action mailed September 22, 2005 has been repeated for the reasons previously made of record.
6. The 35 U.S.C. 103 rejection of claim 65 made of record in paragraph 5 of the previous Office Action mailed September 22, 2005 has been repeated for the reasons previously made of record.

NEW OBJECTIONS

Specification

7. The amendment filed December 22, 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the recitation “epoxy resins comprising 1 to 49 parts by weight of a curable epoxy resin” of claim 64. See 35 U.S.C. 112, first paragraph rejection of claim 64 made of record below in this Office Action.

Applicant is required to cancel the new matter in the reply to this Office Action.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claim 64 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The recitation “epoxy resins comprising 1 to 49 parts by weight of a curable epoxy resin” of claim 64 is not supported by the specification as originally filed, including the claims as originally filed and the subject matter of claim 49 as amended in the Amendment filed September 2, 2005 (Amdt. G).

Claim Rejections - 35 USC § 103

10. Claims 30, 32, 34-37, 47, 50-53, 55, and 57-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al.

In regard to claim 30, Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the polyolefin resin is a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15), and the thermosetting resin of Oishi et al. is necessarily curable since it is a thermosetting resin (col. 29, lines 3-6).

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet and to explicitly teach the claimed relative amounts by weight of the polyolefin and thermosetting resins.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of

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transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

Furthermore, in regard to the claimed relative amounts by weight of the polyolefin and thermosetting resins, since Oishi et al. teach that the polyolefin resin and the thermosetting resin are blended (col. 29, lines 3-6), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amounts of the polyolefin and thermosetting resins in the blend depending on the particular desired end result in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

In regard to claim 32, Oishi et al. teach that the thermosetting resin is an epoxy resin that is an epoxy resin as claimed (col. 29, lines 56-57 and 61-62).

In regard to claim 34, Oishi et al. teach that the container comprises glass beads as a filler (col. 32, lines 51-52 and col. 32, line 67-col. 33, line 2). In regard to claim 35, Oishi et al. teach that the diguanamines taught by Oishi et al. have excellent antifouling property (col. 3, lines 43-45); therefore, the diguanamines taught by Oishi et al. are antifouling agents, and therefore antimicrobial additives, as antifouling agents are characterized as antimicrobial additives in claim 61. In regard to claim 36, Oishi et al. teach that the flame retardant is a compound containing phosphorus-nitrogen bonds, since Oishi et al. teach that phosphorus-containing acids neutralized with bases such as ammonia or an amine, or ammonium polyphosphates, used in

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combination with diguanamine synergistically improves the flame-retarding results of the composition (col. 23, lines 37-43 and col. 24, lines 2-12 and 23); phosphorus-containing acids neutralized with bases such as ammonia or an amine, or ammonium polyphosphates contain phosphorus-nitrogen bonds. In regard to claim 37, Oishi et al. teach that the flame retardant is present in a range of 3-50 wt.% (col. 23, lines 28-30), a range that overlaps with the claimed range of “more than zero and up to and including 25 parts by weight”. In regard to claim 47, Oishi et al. teach that the container comprises a filler (col. 32, lines 51-52 and 67).

In regard to claim 50, Oishi et al. teach that the prepolymerized uncrosslinked hydrocarbon polyolefin resin is homopolymeric (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15). In regard to claim 51, Oishi et al. teach that the filler is incorporated as needed to an extent (i.e. in an amount) that does not impair the advantageous effects of the invention (col. 32, lines 51-54), an amount that overlaps with the claimed range of “more than 0 to 70 parts by weight”. In regard to claims 52 and 53, Oishi et al. teach that the thermosetting resin is an epoxy resin (col. 29, lines 56-57 and 61-62). In regard to claim 55, Oishi et al. teach that the composition comprises a curing accelerator (a thermal curing agent as claimed, col. 14, lines 63-66).

In regard to claim 57, Oishi et al. teach that the composition comprises a curing accelerator (a thermal curing agent as claimed, col. 14, lines 63-66) and that the thermal curing agent is an imidazole (col. 14, lines 64-65). In regard to claim 58, Oishi et al. teach that the composition is cured (col. 14, line 62-col. 15, line 2). In regard to claim 59, Applicant defines the term “semi-interpenetrating polymer network” as “polymer networks of two or more polymers wherein at least one polymer is crosslinked and at least one polymer is uncrosslinked” at the top

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of page 6 of the specification; the blend of a polyolefin resin and a thermosetting resin taught by Oishi et al. is a semi-interpenetrating polymer network since the polyolefin resin is uncrosslinked and the thermosetting resin, by definition, is crosslinked.

In regard to claim 60, Oishi et al. teach that the antimicrobial additive (the diguanamine) is integrally associated with the container since it is a component of the composition of the material that the container is formed from and that the diguanamine is substantially insoluble in water when the n value of the ammonium polyphosphate taught by Oishi et al. is a substantially large value (col. 24, line 16-20). In regard to claim 61, Oishi et al. teach that the antimicrobial additive (the diguanamine) is an antifouling agent (col. 3, lines 43-45).

11. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Perez et al. and in further view of Angell, Jr.

Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to explicitly teach that the pallet comprises structural foam comprising an integral skin and a cellular core. Perez et al., however, disclose a polymer network that is applied to a storage vessel (col. 3, lines 24-25) comprising a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin (col. 3, lines 8-12). Perez et al. disclose that the composition is a foam (any foam would be considered to be “structural”) (col. 23, lines 58-59). Furthermore, Angell, Jr. discloses a container formed of a foamable polymeric material having a wall having a dense surface zone (also referred to by Angell, Jr. as a shell) and a cellular interior that has a greater flexural strength and stiffness than a wall of the same thickness that is uniformly solid (col. 2, lines 8-22 and 42-71). The shell disclosed by Angell, Jr. is structurally equivalent to the integral skin as claimed by Applicant. Therefore, one of ordinary skill in the art would have recognized

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to have used the polymeric foam composition of Perez et al. that comprises a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin as a component of the pallet of Oishi et al. and Endo et al. since the polymeric foam composition of Perez et al. is applied to a storage vessel as taught by Perez et al. and to have formed the pallet such that the foam comprises an integral skin and a cellular core in order to maximize the flexural strength and stiffness of the pallet as taught by Angell, Jr.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the polymeric foam composition of Perez et al. that comprises a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin as a component of the pallet of Oishi et al. and Endo et al. since the polymeric foam composition of Perez et al. is applied to a storage vessel as taught by Perez et al. and to have formed the pallet such that the foam comprises an integral skin and a cellular core in order to maximize the flexural strength and stiffness of the pallet as taught by Angell, Jr.

12. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Radican.

Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to teach that the pallet further comprises at least one radio frequency identification (RFID) tag. Radican, however, teaches the use of RFID tags to enable the rapid acquisition and updating of container location and status (col. 13, lines 19-22). Therefore, one of ordinary skill in the art would have recognized to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican.

13. Claims 48 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Juhanson.

In regard to claim 48, Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to teach that the pallet further comprises a friction material on at least one surface of the pallet. Juhanson, however, disclose a container having a high friction pad attached to the bottom of the container to provide a non-skid surface to the bottom of the container (col. 2, lines 39-45). Therefore, one of ordinary skill in the art would have recognized to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

In regard to claim 64, Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the

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diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the thermosetting resin is an epoxy resin (col. 29, lines 56-57 and 61-62). Oishi et al. teach that the polyolefin resin is a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15), and the epoxy resin of Oishi et al. is necessarily curable since it is a thermosetting resin (col. 29, lines 3-6). Oishi et al. teach that the article is molded (col. 68, line 52-col. 69, line 7).

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet, to explicitly teach the claimed relative amounts by weight of the polyolefin and epoxy resins and to teach that the pallet further comprises in-mold applied friction material laminated adhesive-free to at least one surface of the pallet.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

Juhanson, furthermore, disclose a container having a high friction pad attached to the bottom of the container to provide a non-skid surface to the bottom of the container (col. 2, lines 39-45). The recitation "in-mold applied" is a method limitation that has not been given patentable weight since the method of forming the pallet is not germane to the issue of

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patentability of the pallet itself. Therefore, one of ordinary skill in the art would have recognized to have laminated the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

Furthermore, in regard to the claimed relative amounts by weight of the polyolefin and epoxy resins, since Oishi et al. teach that the polyolefin resin and the thermosetting resin are blended (col. 29, lines 3-6), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amounts of the polyolefin and epoxy resins in the blend depending on the particular desired end result in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al. and to have laminated the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

14. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Radican and in further view of Juhanson.

Oishi et al. and Endo et al. teach the pallet as discussed above in regard to claim 30. Oishi et al. teach that the diguanamines taught by Oishi et al. have excellent antifouling property (col. 3, lines 43-45); therefore, the diguanamines taught by Oishi et al. are antifouling agents, and

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therefore antimicrobial additives, as antifouling agents are characterized as antimicrobial additives in claim 61.

Oishi et al. and Endo et al. fail to teach that the pallet further comprises at least one radio frequency identification (RFID) tag and that the pallet further comprises a friction material on at least one surface of the pallet.

Radican, however, teaches the use of RFID tags to enable the rapid acquisition and updating of container location and status (col. 13, lines 19-22). Therefore, one of ordinary skill in the art would have recognized to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican.

Juhanson, furthermore, disclose a container having a high friction pad attached to the bottom of the container to provide a non-skid surface to the bottom of the container (col. 2, lines 39-45). Therefore, one of ordinary skill in the art would have recognized to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican and to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

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15. Claims 56 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Perez et al.

In regard to claim 56, Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to teach that the composition further comprises a photoactivatable catalyst selected from the group consisting of an onium salt photoinitiator and a cationic organometallic complex salt. Perez et al., however, disclose a polymer network that is applied to a storage vessel (col. 3, lines 24-25) comprising a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin (col. 3, lines 8-12). Perez et al. disclose that the epoxy resin is cured by a photoactivatable cationic catalyst (col. 3, lines 13-17 and col. 23, lines 40-42). Perez et al. teach that the photoactivatable cationic catalyst is an onium salt photoinitiator or a cationic organometallic complex salt (col. 23, lines 43-47). Therefore, one of ordinary skill in the art would have recognized to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

In regard to claim 63, Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising

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a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the polyolefin resin is a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15), and the thermosetting resin of Oishi et al. is necessarily curable since it is a thermosetting resin.

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet, the claimed relative amounts by weight of the polyolefin and thermosetting resins and that the composition further comprises a thermal curative or a photocatalyst.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is well known to form flame retardant containing plastic pallets as taught by Endo et al.

Perez et al., furthermore, disclose a polymer network that is applied to a storage vessel (col. 3, lines 24-25) comprising a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin (col. 3, lines 8-12). Perez et al. disclose that the epoxy resin is cured by a

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photoactivatable cationic catalyst (a photocatalyst) (col. 3, lines 13-17 and col. 23, lines 40-42).

Perez et al. teach that the photoactivatable cationic catalyst is an onium salt photoinitiator or a cationic organometallic complex salt (col. 23, lines 43-47). Therefore, one of ordinary skill in the art would have recognized to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

Since Oishi et al. teach that the polyolefin resin and the thermosetting resin are blended (col. 29, lines 3-6 and 13-14), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amounts of the polyolefin and thermosetting resins in the blend depending on the particular desired end result.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is well known to form flame retardant containing plastic pallets as taught by Endo et al., to have formed the container of Oishi et al. in the form of a pallet since it is well known to form flame retardant containing plastic pallets as taught by Endo et al. and to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

Response to Arguments

16. Applicant's arguments presented on pages 9-11 of Amdt. H regarding the 35 U.S.C. 103 rejection of claims 30, 32, 34-37, 47, 49-53, 55 and 57-62 have been fully considered but are not persuasive.

Applicant argues that Oishi does not disclose "the appropriate amount of polymerization, functionalization, or crosslinking", but none of these parameters are claimed by Applicant in terms of amounts.

In regard to Applicant's arguments regarding the utilities disclosed by Oishi for the Second Invention Group, the diguanamines of the Second Invention Group of Oishi are the diguanamines discussed in columns 68 and 69 of Oishi, and in the discussion of the Second Invention of Oishi at col. 19, lines 1-5 and 10-11, Oishi explicitly teach that the diguanamines are flame-retardant, so the diguanamines discussed in columns 68 and 69 (which are the same as the diguanamines of the Second Invention Group) are necessarily flame retardant. Furthermore, the composition taught in col. 29 of Oishi is not limited to the applications listed at col. 48, lines 25-35 (col. 48, lines 34-35 states "the resin composition is not limited to such applications"). Since the resin compositions taught at col. 29 and at col. 68-69 both include the flame retardant diguanamines, one of ordinary skill in the art would have recognized to have used the general composition of the Second Invention Group of Oishi to form an article taught in columns 68 and 69 of Oishi.

Applicant argues "Oishi et al. lacks enablement for a blend of polyolefins and thermosetting resins", but blends of a polyolefin resin and a thermosetting resin are taught by the plain language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until

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col. 29, lines 13-14, but polyolefin resins clearly fall under the category of “thermoplastic resins” recited at col. 29, line 3.

17. Applicant’s arguments presented on pages 11-13 of Amdt. H regarding the 35 U.S.C. 103 rejection of claim 63 have been fully considered but are not persuasive.

In regard to Applicant’s arguments regarding the utilities disclosed by Oishi for the Second Invention Group, the diguanamines of the Second Invention Group of Oishi are the diguanamines discussed in columns 68 and 69 of Oishi, and in the discussion of the Second Invention of Oishi at col. 19, lines 1-5 and 10-11, Oishi explicitly teach that the diguanamines are flame-retardant, so the diguanamines discussed in columns 68 and 69 (which are the same as the diguanamines of the Second Invention Group) are necessarily flame retardant. Furthermore, the composition taught in col. 29 of Oishi is not limited to the applications listed at col. 48, lines 25-35 (col. 48, lines 34-35 states “the resin composition is not limited to such applications”). Since the resin compositions taught at col. 29 and at col. 68-69 both include the flame retardant diguanamines, one of ordinary skill in the art would have recognized to have used the general composition of the Second Invention Group of Oishi to form an article taught in columns 68 and 69 of Oishi. The statement at col. 56, lines 52-53 does not limit the Third Invention Group to compositions that consist of thermosetting resins.

Applicant argues that “Oishi et al. does not treat the transportation equipments and containers as equivalent”, but the Office does not rely upon the characterization of the transportation equipment and containers as equivalent.

Blends of a polyolefin resin and a thermosetting resin are taught by the plain language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until col. 29, lines 13-

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14, but polyolefin resins clearly fall under the category of “thermoplastic resins” recited at col. 29, line 3.

Styrenes, polyethylenes, poplypropylenes, polybutylenes, poly-3-methylbutenes that are fully prepolymerized and uncrosslinked plainly fall within the scope of the teaching of styrene, polyethylene, poplypropylene, polybutylene and poly-3-methylbutene at col. 29, lines 7-9 and 13-15.

Endo need not teach a pallet composition of a polyolefin/thermoset blend since Endo is relied upon as evidence that the pallet structure is a well known structure to those of ordinary skill in the art of transportation equipment or of containers. Oishi’s teachings of both “transportation equipments” and “containers” motivate one of ordinary skill in the art to look to Endo as proposed in the 35 U.S.C. 103 rejection of record. A pallet is a piece of transportation equipment, and under Applicant’s definition of “pallet”, a pallet is a container (page 1, line 14 of specification), so pallets fall within the scope of articles taught by Oishi even though Oishi does not explicitly teach a pallet.

Blends of a polyolefin resin and a thermosetting resin are taught by the plain language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until col. 29, lines 13-14, but polyolefin resins clearly fall under the category of “thermoplastic resins” recited at col. 29, line 3.

18. Applicant’s arguments presented on pages 13-14 of Amdt. H regarding the 35 U.S.C. 103 rejection of claims 64 and 65 have been fully considered but are not persuasive.

The recitation “in-mold applied” is a method limitation that has not been given patentable weight since the method of forming the pallet is not germane to the issue of patentability of the pallet itself.

19. Applicant’s arguments presented on pages 14-16 of Amdt. H regarding the *Response to Arguments* section of the previous Office Action mailed September 22, 2005 have been fully considered but are not persuasive.

The phrase “transportation equipments such as automobiles” refers to transportation equipment: “automobiles” is merely an example of a piece of transportation equipment. The Office has not taken the position that “transportation equipments” refers to a bucket.

Blends of a polyolefin resin and a thermosetting resin are taught by the plain language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until col. 29, lines 13-14, but polyolefin resins clearly fall under the category of “thermoplastic resins” recited at col. 29, line 3. Thermosetting elastomers are necessarily included within the scope of Oishi’s teachings of “rubbers”. Thermoplastic elastomers, by definition, have both thermoplastic and elastomeric domains. Rubbers can only be considered thermoplastic when they are thermoplastic elastomers (this fact is supported by both dictionary definitions Applicant has supplied).

The scope delineated by Applicant’s originally filed definition of “semi-interpenetrating polymer network” includes polymer blends. Applicant’s discussion on pages 9-10 of Amdt. F supports this position: Applicant describes a semi-interpenetrating polymer network as “having one polymer interwoven with the other”.

Applicant argues that the term “structural” should be construed according one particular definition of the term, but the application as originally filed does not limit the term “structural”

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to the definition to which Applicant refers. Applicant's implied argument that the particular definition of the term that Applicant wishes to use is the only definition recognized in the art is not supported.

Blends of a polyolefin resin and a thermosetting resin are taught by the plain language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until col. 29, lines 13-14, but polyolefin resins clearly fall under the category of "thermoplastic resins" recited at col. 29, line 3.

On page 16 of Amdt. H, Applicant states that the phrase "transportation container" is not "set forth" in Oishi. This statement is intended to be responsive to the paragraph bridging pages 8 and 9 of the previous Office Action mailed September 22, 2005, but the Office did not introduce the phrase "transportation container". The phrase "transportation container" is Applicant's phrase from page 13 of Amdt. G.

The phrase "transportation equipments such as automobiles" refers to transportation equipment: "automobiles" is merely an example of a piece of transportation equipment. The phrase "parts and components of transportation equipments such as automobiles" does not "point[] away" from pallets. A pallet can be, for example, a part or a component of a forklift, which is a piece of transportation equipment. A pallet can be, for example, a part or a component of a forklift, which is a piece of transportation equipment. The verb "transport" does not apply to only people: for example, cars are transported across an ocean in a ship; so Applicant's distinction between "people movers" and "non-people movers" is irrelevant.

Applicant's statement that "Oishi et al. means blends of more than one thermoplastic resin or blends of more tha[n] one thermosetting resin" is not supported in Oishi. Oishi plainly

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teaches blends of a polyolefin resin and a thermosetting resin at col. 29, lines 1-6 and 13-14.

Applicant's use of the word "means" indicates that this is speculation. Applicant argues that support for the characterization of Applicant's statement as speculation is required, but it is Applicant who must provide support for Applicant's statement of what Oishi "means". Evidence that Applicant's speculative statement is unfounded is at col. 29, lines 1-6 and 13-14 of Oishi.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

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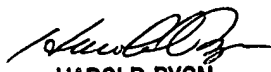
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is to 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh

02/28/06

WBA


HAROLD PYON
SUPERVISORY PATENT EXAMINER
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3/2/06